



Kids Page



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Microbe Adventure

Laura Weber shares her enthusiasm about the science behind waste decomposition through stories and experiments. She tells a story about microbes to teach students about decomposition. Microbes are living organisms, and some of them break down waste. As Ms. Weber explains the decomposition process, she asks her audience to identify which statements are true and which are false. For example, when she says, "Garbage contains microbes," the children agree, but when she says, "Microbes leap out of the garbage at night," they disagree.

This interactive format entertains students and keeps them engaged.

Ms. Weber uses experiments to reinforce the decomposition message. According to Ms. Weber, "One of the exciting things about trash is that there is so much science involved in decomposition. It is fun to conduct experiments to show students that different objects degrade at different rates." At the beginning of the school year,

"Garbage is fun because it is always changing. You can tell a lot about someone's behavior and lifestyle from their trash. When people leave bags of trash by the side of the road, their trash tells a story."

~Laura Weber, director of solid waste management for the St. Regis Mohawk Tribe

teachers can place soil in an aquarium, add water, and bury items in the soil to simulate a landfill. During the school year, students can watch the items decompose and use their observations to draw conclusions about how biodegradable different materials are.

GARBAGE MONSTERS

Teddi Bronson, recycling coordinator for the Confederated Tribes of the Umatilla Indian Reservation, believes that environmental education should be fun. When the tribes opened a recycling depot and transfer station, she expanded the environmental education program to promote recycling and proper solid waste disposal.

Ms. Bronson visits the tribal Head Start facility and daycare center to familiarize children with the new recycling and waste disposal options. She tells stories about the time when tribal members used to dump their waste in a landfill on the reservation and explains how waste management practices have changed over the years. Then, she distributes recycling coloring books, nature stickers, and frisbees with the phone number and address of the recycling depot. The presentation culminates with an illegal dumping and litter prevention activity. The children create "garbage monsters" out of paper shopping bags. They draw a monster's face on each bag and then use the bags to pick up litter outside. The monsters literally eat garbage!

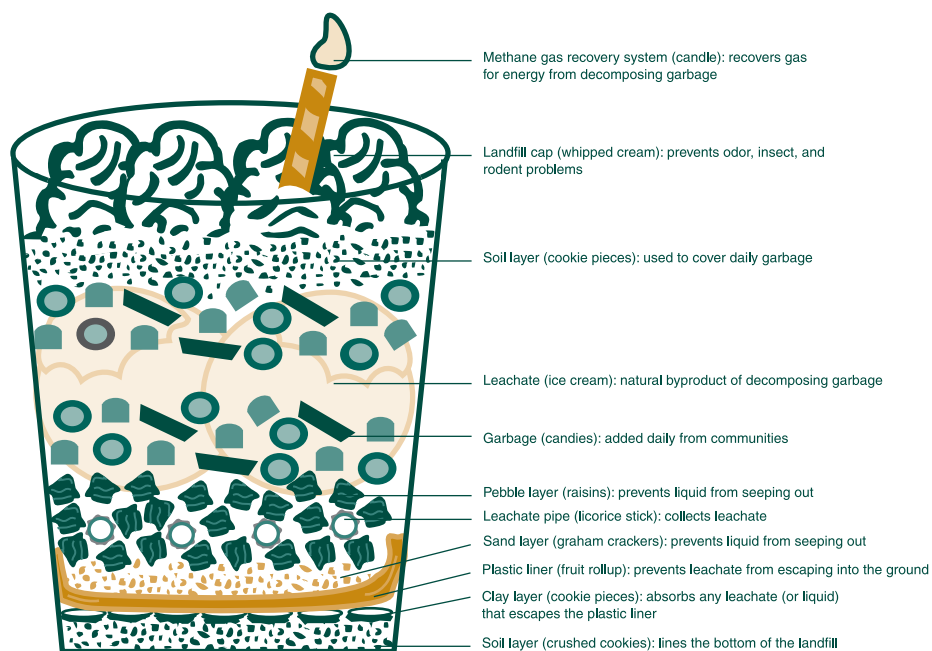
Ms. Bronson plans to integrate her solid waste management message into curricula across the school system. She would also like to provide transfer station tours to older students.



Luscious Layered Landfill

A landfill lesson is brain food for young minds when teachers use cookies and ice cream to symbolize clay liners and leachate. During the “luscious layered landfill” lesson, students place different treats in clear, plastic cups to learn how to build landfills. Each treat represents a different landfill layer—near the bottom, crushed cookies symbolize the soil underneath the landfill, and cookie pieces symbolize the clay liner that absorbs leachate escaping from the plastic liner. A fruit roll-up represents the plastic liner, crushed graham crackers the sand layer, and raisins the pebble layer. Licorice sticks, or leachate pipes, complete the leachate containment and collection system. Teachers can explain that this system prevents waste from contaminating water supplies.

Ice-cream and hard candies rest on top of the raisins, symbolizing leachate and garbage. Students then place crushed cookies (soil) on top. Teachers can explain that, at the end of each day, landfill operators cover waste with soil to minimize problems with vermin. Finally, students cap their tasty landfills with whip cream. They can insert a small candle to symbolize a methane gas recovery system. For additional information about this activity, visit www.epa.gov/epaoswer/osw/kids/quest/pdf/49layer.pdf, or order a free copy of *The Quest for Less: Activities and Resources for Teaching K-6* (EPA530-R-00-008) from EPA’s RCRA/UST, Superfund and EPCRA Hotline at 800 424-9346 or 703 412-9810.



24 HOURS WITH A TRASH BAG



Thanks to Bobby Sullivan, public involvement coordinator for the Oglala Sioux Tribe, children living on Pine Ridge Reservation are excited about waste prevention. Ms. Sullivan delivers interactive presentations to educate 4th through 9th graders about proper solid waste management and involves them in finding solutions to problems. She shows pictures of open dumps on the reservation, describes the tribe’s new landfill, and asks the children to think of creative ways to promote the landfill and prevent illegal dumping. Student suggestions have included creating trash police, enforcing existing litter laws in housing projects, and developing awards for clean communities.

After a lively discussion about illegal dumping prevention, Ms. Sullivan captivates the students with a new question, “Are you interested in learning how much trash a single person can generate in one day?” She asks each child to carry a trash bag for 24 hours. During the study period, the students bring their trash bags everywhere and collect all of the solid waste that they produce (excluding food and liquid wastes). The next day, the children bring their trash bags

back to class. They are amazed that one person can produce so much waste! Ms. Sullivan concludes the activity with a waste prevention brainstorming session.

